

### **REMARKS – General**

By the above amendment, the Applicant has amended the specification to address other prior art, and to correct typographical errors in the specification.

The Applicant has also rewritten all claims to define the invention more particularly and distinctly so as to overcome the technical rejections and define the invention patentably over prior art.

#### **Motorcycles have moveable front and rear wheels commonly of differing wheel width, presenting unique problems to wheel alignment:**

Applicant suggests that the preamble of all independent claims pertaining to “a single track vehicle, in particular a motorcycle or bicycle” should be given patentable weight. As discussed in the further remarks below for individual claims, motorcycles and bicycles commonly have front and rear wheels which are both moveable angularly, and need to be aligned with each other in a way that is unlike other vehicles. Furthermore, motorcycles commonly have front and rear wheels of greatly differing width, which presents a unique problem in attempting to align the front and rear wheels of such a motorcycle.

Claims 1, 2, 4, and 5 were rejected under 35 U.S.C. 102(b) as being anticipated by the admitted prior art of Roberts, Jr. et al. (4,150,897), which describes a wheel alignment system intended for setting the front wheel toe angle between two front wheels of a four wheeled vehicle, and includes an apparatus that projects a laser beam along one side of the vehicle, which is used to turn the moveable front wheel in line with a fixed rear wheel of the vehicle.

Prior to discussing the individual claims and current amendments, Applicant would like to address several issues concerning the prior art of Roberts, Jr. et al.

**Roberts, Jr. et al. provides no means for adjusting rear wheel alignment:**

The apparatus described by Roberts, Jr. et al. assumes that the vehicle rear wheel is already pointed directly forward, and no means for adjustment of the rear wheel alignment is provided.

The alignment method described by Roberts, Jr. et al. teaches that “the front wheels of the vehicle are pointed directly ahead when a beam from the front wheel mounted projector strikes the rear mirror and is reflected to a calibration point on the front wheel mounted projector.” This method assumes that the vehicle rear wheel is already straight, and no provisions are made for moving the rear wheel into alignment.

**Roberts, Jr. et al. provides no means for locating the wheel alignment apparatus at a precise and pre-determined distance from the wheel centerlines:**

The apparatus described by Roberts, Jr. et al. lacks a means for locating the front alignment target and the rearward projecting laser beam at a precise and pre-determined distance from the front wheel centerline. Roberts, Jr. et al. teach a projector housing which can be mounted on a horizontal shaft connected to a wheel mounting bracket. Roberts, Jr. et al. does not teach any wheel mounting method, but simply refers to a wheel mounting bracket such as that described by Graham in U.S. Patent No. 3,709,451. The Graham patent teaches an apparatus which attaches to the rim of a wheel, but does not serve to locate alignment tooling at any precise and pre-determined distance from the centerline of a wheel. With this wheel mounting method suggested by Roberts, Jr. et al., the alignment tooling distance from the centerline of the wheel is determined by the width of the wheel and is not controlled in any way. Motorcycles commonly have front and rear wheels of significantly different wheel widths, such that the wheel mounting method described by Graham and suggested by Roberts, Jr. et al. cannot be used to locate the wheel alignment apparatus at a precise and pre-determined distance from the wheel centerlines.

**Roberts, Jr. et al. provides no fixed rear target:**

The alignment apparatus described by Roberts, Jr. et al. includes a rear mirror that is moveable laterally, and therefore does not provide a fixed rear target alignment mark located at a precise and predetermined distance from the rear wheel centerline, as necessary in order to align front and rear wheels where both front and rear wheels are moveable as with a motorcycle or bicycle.

**Roberts, Jr. et al. provides no means for setting wheel alignment where front and rear wheels are moveable, and furthermore are of differing wheel width:**

Consequently, the apparatus described by Roberts, Jr. et al. provides no means for setting both front and rear wheels in alignment with each other where the front and rear wheels are both angularly movable as they are in a motorcycle or bicycle. Furthermore, the apparatus described by Roberts, Jr. et al. does not provide for front and rear wheels of differing widths as is commonly found on motorcycles.

**Claim 1 as amended defines over prior art:**

In response to this rejection, Claim 1 has been currently amended to define over the prior art as follows:

- 1) **Claim 1 is currently amended to include a front alignment reference point located at a pre-determined distance from the longitudinal centerline of the front wheel.** The prior art of Roberts, Jr. et al. does not provide any means for locating a front alignment reference point at a pre-determined distance from the centerline of the front wheel. Roberts, Jr. et al., suggests a wheel mounting bracket such as that described by Graham in U.S. Patent No. 3,709,451. The Graham patent teaches an apparatus which attaches to the rim of a wheel, but does not serve to locate alignment tooling at any precise and pre-determined distance from the centerline of a wheel. Motorcycles commonly have front and rear wheels of significantly different wheel widths, such that the wheel mounting method described by Graham and

suggested by Roberts, Jr. et al. cannot be used to locate the wheel alignment apparatus at a precise and pre-determined distance from the wheel centerlines.

- 2) **Claim 1 is currently amended to include a rear alignment reference point located at a pre-determined distance from the longitudinal centerline of the rear wheel.** The prior art of Roberts, Jr. et al. does not provide any means for locating a rear alignment reference point at a pre-determined distance from the centerline of the rear wheel. As with the front alignment reference point described above, the alignment tool mounting method suggested by Roberts, Jr. et al is a wheel clamping apparatus such as described by Graham, which does not serve to locate the alignment tooling at a precise and pre-determined distance from the centerline of the rear wheel.

Furthermore, Roberts, Jr. et al. teaches a rear alignment mirror that is moveable laterally, and therefore does not provide a fixed rear target alignment mark located at a precise and predetermined distance from the rear wheel centerline, as necessary in order to align front and rear wheels where both front and rear wheels are moveable as with a motorcycle or bicycle.

- 3) **Claim 1 is currently amended to designate a rearward projecting alignment reference line to be located at a pre-determined distance from the longitudinal centerline of the front wheel.** The prior art of Roberts, Jr. et al. does not provide any means for locating any alignment reference line at a pre-determined distance from the centerline of the front wheel . As with the front alignment reference point described above, the alignment tool mounting method suggested by Roberts, Jr. et al is a wheel clamping apparatus such as described by Graham, which does not serve to locate the alignment tooling at a precise and pre-determined distance from the centerline of the front wheel.
- 4) **Claim 1 is currently amended to designate a forward projecting alignment reference line to be located at a pre-determined distance from**

**the longitudinal centerline of the rear wheel.** The prior art of Roberts, Jr. et al. does not provide any means for locating any alignment reference line at a pre-determined distance from the centerline of the rear wheel.

- 5) **Claim 1 is currently amended to describe a means of aligning moveable front and rear wheels with the front wheel being moved such that the rearward projecting alignment reference line is aligned with the rear alignment reference point, and the rear wheel being moved such that the forward projecting alignment reference line is aligned with the front alignment reference point.** The prior art of Roberts, Jr. et al. does not suggest any means for moving the rear wheel of a vehicle to align with the front wheel.

Claim 1 as currently amended recites multiple novel features over the prior art of Roberts, Jr. et al. These multiple features as currently amended distinguish over Roberts, et al. under Section 102.

These novel features of Claim 1 are submitted to be of patentable merit under Section 103 because these features are unobvious and yield new and unexpected results, namely a method for alignment of front and rear wheels of a vehicle where both front and rear wheels are moveable, and furthermore where both front and rear wheels may be of differing wheel widths.

Furthermore, the novel features of Claim 1 provide a means for alignment of front and rear wheels of a motorcycle having both moveable front and rear wheels, and wheels of differing width by a method never previously suggested by those skilled in the art.

Applicant suggests that the numerous unique features of Claim 1 are not obvious to one skilled in the art, as this solution can only be seen in the hindsight of the present invention. The need for a motorcycle wheel alignment tool which can be

utilized on a vehicle having moveable front and rear wheels commonly of differing width has been a known problem for over 20 years as witnessed by the attempts of the prior art, yet no practitioners of the art have ever previously suggested such a solution. Consequently, the Applicant further suggests that the present invention utilizes a new principle of operation, never before envisioned.

The prior art of Roberts, Jr. et al. does not provide any method for alignment of a vehicle where the front and rear wheels are both moveable, and furthermore where both front and rear wheels may be of differing wheel widths.

**Novelty is demonstrated by commercial success and media attention:**

The novelty and unobviousness of this wheel alignment method is demonstrated by the commercial success of the present invention. The Applicant is currently selling a wheel alignment tool utilizing the alignment method of Claim 1, which can be seen and purchased on the internet at:

**<http://www.laser-lines.com>** .

To date, the Applicant has sold 112 units of this motorcycle wheel alignment tool.

In addition the alignment tool sold by the Applicant utilizing the method of Claim 1 has been awarded **“Innovation of the Month”** in the March 2005 issue of **Motorcycle Consumer News Magazine**, and has been featured in the **“Bitch’n Fresh Kit”** section of the September 2004 issue of **Sport Rider Magazine**.

Applicant submits that Claim 1 as currently amended is allowable over the cited reference and solicits reconsideration and allowance.

**Claim 2 as amended defines over prior art:**

In response to this rejection, Claim 2 has been currently amended to define over the prior art as follows:

- 1) **Claim 2 is currently amended to recite front and rear wheel center ribs that are positioned precisely along the longitudinal centerline of their respective front and rear wheels.** The prior art of Roberts, Jr. et al. does not include any such structure. The wheel center ribs referred to in this claim and as described in the specification are center ribs that are commonly found on motorcycle wheels for placement of balancing wheel weights, or alternately center ribs which are placed for use specifically with the present alignment tool apparatus. It is critical to this apparatus of the invention to have wheel center ribs which are positioned precisely on the centerline of each wheel, as these center ribs are used as the reference point for positioning the alignment tooling at a pre-determined distance from the centerline of each wheel.

The wheels suggested in Roberts, Jr. et al. are typical four wheel motor vehicle wheels, which are not commonly provided with any such center ribs, and no such wheel center ribs are suggested or provided in the specification of Roberts, Jr. et al. It should be noted that wheel spokes or hubs as normally found on automobile wheels commonly have significant off-sets from the centerline of the wheel, such that these structures cannot be construed as center ribs located precisely along the centerline of the wheel.

- 2) **Claim 2 is currently amended to include a front alignment target reference mark placed at a fixed and pre-determined distance along the length of the front alignment unit, with means for placing this front alignment target reference mark and a front mounted laser module at a predetermined distance from the centerline of the front wheel.** The prior art of Roberts, Jr. et al. does not provide any means for locating a front alignment reference mark or a laser module at a pre-determined distance from

the centerline of the front wheel. Roberts, Jr, et al., suggests a wheel mounting bracket such as that described by Graham in U.S. Patent No. 3,709,451. The Graham patent teaches an apparatus which attaches to the rim of a wheel, but does not serve to locate alignment tooling at any precise and pre-determined distance from the centerline of a wheel. Motorcycles commonly have front and rear wheels of significantly different wheel widths, such that the wheel mounting method described by Graham and suggested by Roberts, Jr. et al. cannot be used to locate a front alignment reference mark or a front laser module at a precise and pre-determined distance from the front wheel centerline.

- 3) **Claim 2 is currently amended to include a rear alignment reference mark placed at a fixed and pre-determined distance along the length of the rear alignment unit, with means for placing this rear alignment target reference mark at a pre-determined distance from the longitudinal centerline of the rear wheel.** The prior art of Roberts, Jr. et al. does not provide any means for locating a rear alignment reference mark at a pre-determined distance from the centerline of the rear wheel. As with the front alignment reference mark described above, the alignment tool mounting method suggested by Roberts, Jr. et al. is a wheel clamping apparatus such as described by Graham, which does not serve to locate the alignment tooling at a precise and pre-determined distance from the centerline of the rear wheel.

Furthermore, Roberts, Jr. et al. teaches a rear alignment mirror that is moveable laterally, and therefore does not provide a fixed rear target alignment mark located at a precise and predetermined distance from the rear wheel centerline, as necessary in order to align front and rear wheels according to the apparatus of the invention.

- 4) **Claim 2 is currently amended to describe a means of aligning moveable front and rear wheels with the front wheel being moved such that the**

**rearward projecting laser beam is aligned with the rear alignment target reference mark, and the rear wheel being moved such that the forward projecting laser beam is aligned with the front alignment target reference mark.** The prior art of Roberts, Jr. et al. does not suggest any means for moving the rear wheel of a vehicle to align with the front wheel. Furthermore, Roberts, Jr. et al. does not suggest any structure which could be used for this purpose.

Claim 2 as currently amended recites multiple novel features and structure over the prior art of Roberts, Jr. et al. These multiple features distinguish over Roberts, et al. under Section 102.

These novel features of Claim 2 are submitted to be of patentable merit under Section 103 because these features are unobvious and yield new and unexpected results, namely a method for alignment of front and rear wheels of a vehicle where both front and rear wheels are moveable, and furthermore where both front and rear wheels may be of differing wheel widths.

Furthermore, the novel features and structure of Claim 2 provide a means for alignment of front and rear wheels of a motorcycle having both moveable front and rear wheels, and wheels of differing width by a method never previously suggested by those skilled in the art.

Applicant suggests that the numerous unique features and structures of Claim 2 are not obvious to one skilled in the art, as this solution can only be seen in the hindsight of the present invention. The need for a motorcycle wheel alignment tool which can be utilized on a vehicle having moveable front and rear wheels commonly of differing width has been a known problem for over 20 years as witnessed by the attempts of the prior art, yet no practitioners of the art have ever previously suggested such a solution. Consequently, the Applicant further

suggests that the present invention utilizes a new principle of operation, never before envisioned.

The prior art of Roberts, Jr. et al. does not provide any method for alignment of a vehicle where the front and rear wheels are both moveable, and furthermore where both front and rear wheels may be of differing wheel widths.

**Novelty is demonstrated by commercial success and media attention:**

The novelty and unobviousness of this wheel alignment apparatus is demonstrated by the commercial success of the present invention. The Applicant is currently selling a wheel alignment tool utilizing the method of Claim 1, with the apparatus of independent Claim 2 along with dependent Claims 3, 4, and 5, and independent Claim 17 along with dependent Claims 18, 19, and 20. This motorcycle wheel alignment tool can be seen and purchased on the internet at:

**<http://www.laser-lines.com>** .

To date, the Applicant has sold 112 units of this motorcycle wheel alignment tool.

In addition the alignment tool sold by the Applicant utilizing the apparatus of the invention has been awarded “**Innovation of the Month**” in the March 2005 issue of **Motorcycle Consumer News Magazine**, and has been featured in the “**Bitch’n Fresh Kit**” section of the September 2004 issue of **Sport Rider Magazine**.

Applicant submits that Claim 2 as currently amended is allowable over the cited reference and solicits reconsideration and allowance.

**Claim 4 as amended defines over prior art:**

In response to this rejection, Claim 4 has been currently amended to define over the prior art by further defining the structure of Claim 4 as a means for locating the front laser module and the front alignment target reference mark at a pre-determined distance from the centerline of the front wheel. The prior art of Roberts, Jr. et al. does not provide any front alignment reference mark or laser module at a pre-determined distance from the centerline of the front wheel. Roberts, Jr. et al., suggests a wheel mounting bracket such as that described by Graham in U.S. Patent No. 3,709,451. The Graham patent teaches an apparatus which attaches to the rim of a wheel, but does not serve to locate alignment tooling at any precise and pre-determined distance from the centerline of a wheel.

Motorcycles commonly have front and rear wheels of significantly different wheel widths, such that the wheel mounting method described by Graham and suggested by Roberts, Jr. et al. cannot be used to locate a front alignment reference mark or a front laser module at a precise and pre-determined distance from the front wheel centerline.

Dependent Claim 4 as currently amended along with independent Claim 2 as described previously recites novel features and structure over the prior art of Roberts, Jr. et al. These multiple features distinguish over Roberts, et al. under Section 102.

The novel features and structure of Claim 4 are submitted to be of patentable merit under Section 103 for the reasons given above with respect to independent Claim 2 with additional limitations of the novel structure recited in Claim 4.

Therefore, Applicant submits that Claim 4 as currently amended is allowable over the cited reference and solicits reconsideration and allowance.

**Claim 5 as amended defines over prior art:**

In response to this rejection, Claim 5 has been currently amended to define over the prior art by further defining the structure of Claim 5 as a means for locating the rear alignment target reference mark at a pre-determined distance from the centerline of said front wheel. The prior art of Roberts, Jr. et al. does not provide any rear alignment reference mark at a

pre-determined distance from the centerline of the rear wheel. Roberts, Jr, et al., suggests a wheel mounting bracket such as that described by Graham in U.S. Patent No.

3,709,451. The Graham patent teaches an apparatus which attaches to the rim of a wheel, but does not serve to locate alignment tooling at any precise and pre-determined distance from the centerline of a wheel. Motorcycles commonly have front and rear wheels of significantly different wheel widths, such that the wheel mounting method described by Graham and suggested by Roberts, Jr. et al. cannot be used to locate a rear alignment reference mark at a precise and pre-determined distance from the rear wheel centerline.

Furthermore, Roberts, Jr. et al. teaches a rear alignment mirror that is moveable laterally, and therefore cannot provide a fixed rear target alignment mark located at a precise and predetermined distance from the rear wheel centerline, as necessary in order to align front and rear wheels according to the apparatus of the invention.

Dependent Claim 5 as currently amended along with independent Claim 2 as described previously recites novel features and structure over the prior art of Roberts, Jr. et al. These multiple features distinguish over Roberts, et al. under Section 102.

The novel features and structure of Claim 5 are submitted to be of patentable merit under Section 103 for the reasons given above with respect to independent Claim 2 with additional limitations of the novel structure recited in Claim 5.

Therefore, Applicant submits that Claim 5 as currently amended is allowable over the cited reference and solicits reconsideration and allowance.

Claims 3, and 6-16 were rejected under 35 U.S.C. 103(a) as being unpatentable over the admitted prior art of Roberts, Jr. et al. (4,150,897).

**Claim 3 as amended recites patentable merit over prior art:**

In response to this rejection, Claim 3 has been currently amended to recite patentable merit over Roberts, Jr. et al. Claim 3 now points out the surprising and unexpected results

of substituting a rear target having an opaque surface in place of the rear target mirror along with a rear laser module disposed to emit the forward projecting laser beam, namely the location of the front alignment reference mark is not dependent on the exact manufacturing alignment of the rear target mirror, and further advantage being improvement of portability and durability by the elimination of a fragile mirror.

These surprising and unexpected results are so advantageous that the wheel alignment tool of this invention currently sold by the Applicant includes these additional structures, even though they increase the material cost of the apparatus.

**Claim 3 provides surprising advantages in manufacturing:**

It has been found in manufacturing this alignment tool apparatus that if a mirror is used as the rear alignment target as recited in Claim 2, the angle at which the mirror is set has a large and dramatic effect on the correct location of the front alignment target reference mark due to the projection of the laser beam over a relatively long distance, namely the wheelbase of the vehicle. With the additional components of Claim 3, during manufacturing the alignment targets on both the front and rear alignment units can be set in place, then each front and rear laser module can be placed and aligned independently such that all manufacturing tolerances and target placement accuracies are compensated for when the laser modules are set.

Consequently, manufacturing tolerances and alignment accuracy during manufacturing are greatly improved by the additional structure recited in Claim 3.

The novel features and structure of Claim 3 are therefore submitted to be of patentable merit under Section 103 for the reasons given above, along with the reasons given with respect to independent Claim 2 with additional limitations of the novel structure recited in Claim 3.

Therefore, Applicant submits that Claim 3 as currently amended is allowable over the cited reference and solicits reconsideration and allowance.

Claims 6 – 16 are canceled in consideration of the newly added Claims 17, 18, 19, and 20.

**Newly added Claim 17 is submitted to overcome the rejections of canceled claims:**

Claim 17 recites an additional embodiment apparatus comprising the following features and structures not provided for in the prior art:

- 1) **Claim 17 specifies front and rear inside wheel clamp beams extending across the lips of their respective wheels to serve as a reference structure for positioning the front and rear alignment tools at a precise and known distance from the centerlines of their respective wheels.** No such structure is recited or suggested in Roberts, Jr. et al.
- 2) **Claim 17 includes a front alignment target reference mark placed at a fixed and pre-determined distance along the length of the front alignment unit, with means for placing this front alignment target reference mark and a front mounted laser module at a precise and known distance from the centerline of the front wheel.** As discussed in the remarks above for Claim 2, the prior art of Roberts, Jr. et al. does not provide any means for locating a front alignment reference mark or a laser module at a precise and known distance from the centerline of the front wheel.
- 3) **Claim 17 includes a rear alignment reference mark placed at a fixed and pre-determined distance along the length of the rear alignment unit, with means for placing this rear alignment target reference mark at a precise and known distance from the longitudinal centerline of the rear wheel.** As discussed in the remarks above for Claim 2, the prior art of Roberts, Jr. et al. does not provide any means for locating a rear alignment reference mark at a precise and known distance from the centerline of the rear wheel.

Furthermore, Roberts, Jr. et al. teaches a rear alignment mirror that is moveable laterally, and therefore cannot provide a fixed rear target alignment mark located at a precise and known distance from the rear wheel centerline, as necessary in order to align front and rear wheels according to the apparatus of the invention.

- 4) **Claim 17 describes a means of aligning moveable front and rear wheels with the front wheel being moved such that the rearward projecting laser beam is aligned with the rear alignment target reference mark, and the rear wheel being moved such that the forward projecting laser beam is aligned with the front alignment target reference mark.** The prior art of Roberts, Jr. et al. does not suggest any means for moving the rear wheel of a vehicle to align with the front wheel. Furthermore, Roberts, Jr. et al. does not suggest any structure which could be used for this purpose.

Claim 17 therefore recites multiple novel features and structure over the prior art of Roberts, Jr. et al. These multiple features distinguish over Roberts, et al. under Section 102.

These novel features of Claim 17 are submitted to be of patentable merit under Section 103 because these features are unobvious and yield new and unexpected results, namely a method for alignment of front and rear wheels of a vehicle where both front and rear wheels are moveable, and furthermore where both front and rear wheels may be of differing wheel widths.

Furthermore, the novel features and structure of Claim 17 provide a means for alignment of front and rear wheels of a motorcycle having both moveable front and rear wheels, and wheels of differing width by a method never previously suggested by those skilled in the art.

Applicant suggests that the numerous unique features and structures of Claim 17 are not obvious to one skilled in the art, as this solution can only be seen in the hindsight of the present invention. The need for a motorcycle wheel alignment tool which can be utilized on a vehicle having moveable front and rear wheels commonly of differing width has been a known problem for over 20 years as witnessed by the attempts of the prior art, yet no practitioners of the art have ever previously suggested such a solution. Consequently, the Applicant further suggests that the present invention utilizes a new principle of operation, never before envisioned.

The prior art of Roberts, Jr. et al. does not provide any method for alignment of a vehicle where the front and rear wheels are both moveable, and furthermore where both front and rear wheels may be of differing wheel widths.

The novelty and unobviousness of this wheel alignment apparatus is demonstrated by the commercial success and media attention of the present invention as previously discussed above in the remarks for Claim 2.

**Newly added Claim 18 is submitted to overcome the rejections of canceled claims:**

Claim 18 defines over the prior art by reciting a means for locating the front laser module and the front alignment target reference mark at a precise and known distance from the centerline of the front wheel. The prior art of Roberts, Jr. et al. does not provide any front alignment reference mark or laser module at a precise and known distance from the centerline of the front wheel, as previously discussed above in the remarks for Claim 4.

Dependent Claim 18 along with independent Claim 17 as described previously recites novel features and structure over the prior art of Roberts, Jr. et al. These multiple features distinguish over Roberts, et al. under Section 102.

The novel features and structure of Claim 18 are submitted to be of patentable merit under Section 103 for the reasons given above with respect to independent Claim 17 with additional limitations of the novel structure recited in Claim 18.

**Newly added Claim 19 is submitted to overcome the rejections of canceled claims:**

Claim 19 defines over the prior art by reciting a means for locating the rear alignment target reference mark at a precise and known distance from the centerline of the rear wheel. The prior art of Roberts, Jr. et al. does not provide any structure for locating a rear alignment reference mark at a precise and known distance from the centerline of the rear wheel as discussed previously in the remarks for Claim 5.

Dependent Claim 19 along with independent Claim 17 as described previously recites novel features and structure over the prior art of Roberts, Jr. et al. These multiple features distinguish over Roberts, et al. under Section 102.

The novel features and structure of Claim 19 are submitted to be of patentable merit under Section 103 for the reasons given above with respect to independent Claim 17 with additional limitations of the novel structure recited in Claim 19.

**Newly added Claim 20 recites surprising advantages in manufacturing:**

Claim 20 has been drafted to recite patentable merit over Roberts, Jr. et al. Claim 20 points out the surprising and unexpected results of substituting a rear target having an opaque surface in place of the rear target mirror along with a rear laser module disposed to emit the forward projecting laser beam, namely the location of the front alignment reference mark is not dependent on the exact manufacturing alignment of the rear target mirror, and further advantage being improvement of portability and durability by the elimination of a fragile mirror.

Consequently, manufacturing tolerances and alignment accuracy during manufacturing is greatly improved by the additional structure recited in Claim 20, as previously discussed above in the remarks for Claim 3.

The novel features and structure of Claim 20 are therefore submitted to be of patentable merit under Section 103 for the reasons given above, along with the reasons given with respect to independent Claim 17 with additional limitations of the novel structure recited in Claim 20.

Therefore, Applicant submits that newly added Claims 17, 18, 19, and 20 overcomes the rejections of canceled claims and is allowable over the cited reference and solicits reconsideration and allowance.

**Conditional Request For Constructive Assistance:**

Applicant has amended the specification and claims of this application so that they are proper, definite, and define novel structure which is also unobvious and yields new and unexpected results. If for any reason this application is not believed to be in full condition for allowance, applicant respectfully requests the constructive assistance and suggestions of the Examiner pursuant to M.P.E.P. § 2173.02 and § 707.07(j) in order that the undersigned applicant can place this application in allowable condition as soon as possible and without the need for further proceedings.

If the Examiner has any issues with the specification or claims as currently amended, the Applicant would welcome the opportunity to meet with the Examiner, to discuss these issues, and to demonstrate the numerous features and advantages of the present invention.

Very respectfully,

Applicant.



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Date: 6/13/05  Applicant